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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 08/906,493  
Filing Date: August 05, 1997  
Appellant(s): FREEMAN ET AL.

**MAILED**

**OCT 11 2005**

**Technology Center 2600**

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Alfred A. Stadnicki  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed July 17, 2002 appealing from the Office action mailed December 20, 2001.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is partly correct.

The amendment after final rejection filed on April 15, 2002 is the only amendment filed, and it has been entered.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

Claims 1-2 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coiner et al in view of Nishijima, US 5,915,069.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coiner et al in view of Nishijima as applied to claim 1-2 above and further in view of Yamawaki, US 5,446,659.

Claims 1-2, 4-8, 10-12, 15-19, 36 and 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishijima, PN 5915069.

Claims 9, 20-21, 32-35, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishijima.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishijima for the same reasons as applied to claim 1 above and further in view of Freeman, US 6,002,808 and Chow, US 5,016,633.

Claims 1-4, 15 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gustin in view of Nishijima.

***Allowable Subject Matter***

The indicated allowability of claims 37 and 39 is withdrawn in view of the newly discovered reference(s) to Kirsten, US 5,724,475 and Ichimura, US 5,926,605. Rejections based on the newly cited reference(s) follow.

**NEW GROUND(S) OF REJECTION**

**Claims 1-2, 5-8, 10, 15-17, 19, 21, 37, 39, 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Kirsten, US 5,724,475.**

Kirsten discloses a recording device for capturing data (see figs. 2, 13, 35B, Note: fig. 35B exemplifies the image processor 302 of fig. 13) said recording device comprising:

at least one memory for storing image data associated with a time period (storage sub-system or storage buffer in figs. 13, 35B, and a time period associated with data storage to the memory is the "trigger" time interval disclosed in Kirsten, e.g. from pre-trigger to post-trigger time interval, see col. 3, line 21-24, col. 4, line 45-52, col. 17, line 1-5, col. 33, line 5 to col. 34, line 23);

and a control processor operative to store the data in the at least one memory (fig. 13: 310 "control system", see also col. 17, line 1-5);

wherein each image represented by the stored data associated with a portion of the time period closer to an event has a first image resolution and each image represented by the stored data associated with a portion of the time period further from the event has a second image resolution different than the first resolution (see col. 3, line 21-24, col. 4, line 45-52, col. 17, line 1-5, col. 33, line 5 to col. 34, line 23, there Kirsten discloses image data at a time portions immediately prior/after a trigger event i.e. pre/post-trigger, are stored at a higher image resolution i.e. first resolution, than image data not close to the trigger even, which are stored at normal image resolution i.e. second resolution).

Re claim 2, the device of claim 1, wherein said device further comprises:

at least one first sensor type operative to generate the data (fig. 13: 300 shows video image stream that are being generated by video cameras as shown in fig. 2);

and at least one second sensor type operative to generate a signal representing the event (the trigger event as discussed in claim 1 above may be generated by alarm

data shown in fig. 2 and/or an external motion detection trigger, see col. 29, line 64-67, col. 33, line 1-8);

wherein each image represented by the stored data associated with the portion of the time period closer to the event has the first resolution responsive to the signal (see discussion in claim 1).

Re claim 5, the device of claim 1, wherein: the data is video data representing a plurality of frames; and the processor is operative such that a number of the plurality of frames per a unit of time represented by the stored video data associated with the portion of the time period closer to the event is greater than a number of the plurality of frames per the unit of time represented by the stored video data associated with the portion of the time period further from the event.

As discussed in claim 1, Kirsten discloses recording image data at a higher image rate (i.e. frame-per-second) at the pre/post-trigger time portions when a trigger event occurs and at a lower imager rate otherwise (see col. 3, line 21-24, col. 33, line 5-8). The disclosed recording image rate(s) inherently implies involving a plurality of frames.

Re claim 6, the device of claim 1, wherein said control processor is further operative to compress the data associated with the portion of the time period closer to the event at a first compression ratio and to compress the data associated with the portion of the time period further from the event at a second compression ratio different than the first compression ratio, prior to the storage of the data within said memory.

As discussed in claim 1 above, Kirsten discloses compressing image data recorded at the pre/post-trigger time portions when a trigger event occurs at a first compression ratio, and compressing recorded image data further away from the triggered event at a second compression ratio different from said first compression ratio (see fig. 35B, col. 33, line 55 to col. 34, line 17).

Re claim 7, the device of claim 1, wherein: the data is video data; and the data stored in said memory has a first frame rate prior to the event and has a second frame rate subsequent to the event. (Claim 7 has been analyzed and rejected w/r to claims 1 and 5 above).

Re claim 8, the device of claim 1, wherein said second resolution is less than said first resolution. (Claim 8 has been analyzed and rejected w/r to claim 1).

Re claim 10, the device of claim 1, further comprising: a plurality of sensors each operative to generate a respective portion of the data; wherein said at least one memory is a plurality of memories corresponding in number to said plurality of sensors; wherein said control processor is operative to store the respective portions of data generated by each of said plurality of sensors in a respective one of said plurality of memories.

Kirsten further discloses a configuration (figs. 4-5) having a plurality of video cameras (i.e. sensors) for generating a plurality of video streams wherein respective portion from each of the video streams may be selectively acquired (figs. 9A-9C, col. 10, line 61 to col. 11, line 36), compressed and stored in respective memories (figs. 11C-11D, col. 12, line 43-65, col. 13, line 58 to col. 14, line 32).

Re claim 15, which recites “[A] method for recording data, comprising the steps of: storing first image data associated with a time period closer to an event, wherein each image represented by the stored first image data has a first image resolution; and storing second image data associated with a time period further from said event, wherein each image represented by the stored second image data has a second image resolution different than the first resolution[.]” (Claim 15 has been analyzed and rejected w/r to claim 1 above).

Re claim 16, which recites “[T]he method of claim 15, further comprising the step of: compressing said first data and said second data prior to storing said first data and said second data[.]” (Claim 16 has been analyzed and rejected w/r to claim 6 above).

Re claim 17, which recites “[T]he method of claim 16, wherein said compressing is performed with an asymmetric compression routine[.]” (Claim 17 has also been analyzed and rejected w/r to claim 6 above. As discussed in claim 6, Kirsten discloses a compression routine that compresses image data utilizing two different types of compression i.e. asymmetric compression depending the image data is relative to a trigger event).

Re claim 19, which recites “[T]he method of claim 15, wherein: the stored first data is first video data and the stored second data is second video data; said stored first video data has a first frame rate; and said stored second video data has a second frame rate[.]” (Claim 19 has been analyzed and rejected w/r to claims 5 and 7 above).

Re claim 21, the method of claim 19, wherein said second rate is less than said first rate. (Claim 21 has been analyzed and rejected w/r to claims 5 and 7 above).



Re claim 37, the device of claim 1, wherein the first and the second resolutions are at least one of temporal resolutions and spatial resolutions. With respect to the discussion of claim 1 above, Kirsten discloses intraframe encoding (i.e. spatial resolution) and interframe encoding (i.e. temporal resolution) to vary the first and second resolution of recorded image data relative to a trigger event (see fig. 35B, col. 33, line 55 to col. 34, line 23).

Re claim 38, the device of claim 1, wherein the control processor is operative to compress the data associated with the portion of the time period closer to an event at a first compression ratio and the data associated with the portion of the time period further from an event at a second compression ratio different than the first compression ratio. (Claim 38 has been analyzed and rejected w/r to claim 6 above).

Re claim 39, the device according to claim 1, wherein the first and the second resolutions are temporal resolutions and the control processor is operative to store, on a per unit of time basis, more of the data associated with the portion of the time period closer to an event and less of the data associated with the portion of the time period further from an event. (Claim 39 has been analyzed and rejected w/r to claims 1, 5 and 37).

Re claim 42, the method of claim 15, wherein said first resolution is higher than said second resolution. (Claim 42 has been analyzed and rejected w/r to claim 1, 8 and 15 above).

**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsten as applied to claims 1-2 above and further in view of Yamawaki, US 5,446,659.**

Re claim 3, the device of claim 2, wherein said at least one second sensor type includes an accelerometer.

Kirsten discloses various types of sensors (see discussion in claim 2) for initiating a trigger event. However, Kirsten fails to disclose an accelerometer as the triggering sensor as claimed.

Yamawaki is in the same field of endeavor and makes it well known the use of an accelerometer (fig. 1, 3, col. 2, lines 10-23) for detecting accelerating data that may indicate an event of a traffic accident.

Therefore, taking the combined teaching of Kirsten and Yamawaki as a whole, it would have been obvious to implement in Kirsten an accelerometer as a trigger mechanism for the benefit of video surveillance to detect traffic accidents as taught in Yamawaki.

**Claims 4, 34, 40, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsten in view of Ichimura, US 5,926,605.**

Re claim 4, the device of claim 1, further comprising: a capture switch; wherein the control processor is operative to store only a predetermined amount of data within said memory following user activation of said capture switch. As discussed in claim 1 above, Kirsten discloses continuous image data recording in which a predetermined

amount of image data is recorded at a higher resolution than the rest upon activation of a trigger. However, Kirsten fails to disclose user activated image data recording of a predetermined amount as claimed.

Ichimura is in the same field of endeavor and makes it well known detection of various user input data, including but not limited to a camera shutter button being pressed (col. 7, line 16-33), upon such detection, a predetermined amount of image and/or audio data are stored. This technique enables recording of image and/or audio that may be important by associating recording with a user input (col. 3, line 25-67, col. 7, line 56-67, col. 9, line 48-67).

Therefore, taking the combined teaching of Kirsten and Ichimura as a whole, it would have been obvious to implement in Kirsten user activated image data recording of a predetermined amount for the benefit of recording only important image data as taught in Ichimura.

Re claim 34, the device of claim 1, wherein said control processor is further operative to purge the contents of said at least one memory upon user activation of a switch. With respect to the discussion of claims 1 and 4 above, the activation switch would have been obviated by Ichimura to activate image recording to retain important image data. Further, the disclosure in Kirsten of "writing and clearing of data inherent in pre-trigger recording" (col. 33, line 34-38) is indicative that image data may be purged from memory upon recording activation.

Re claim 40, the device of claim 1, wherein the control processor is operative to store only a predetermined amount of data following the event. (Claim 40 has been analyzed and rejected w/r to claims 1 and 4 above).

Re claim 44, which recites “[A] compact portable device for recording data with no moving parts, said recording device comprising: at least one first sensor type operative to generate image data associated with a period of time; at least one second sensor type operative to generate a signal representing an event; at least one circular buffer memory for storing the data; a control processor operative to receive the signal representing the event and to store the data in the at least one circular buffer memory, wherein each image represented by the stored data associated with a portion of the time period after receipt of the event signal has a first image resolution and each image represented by the stored data associated with a portion of the time prior to receipt of the event signal has a second image resolution lower than the first resolution; a portable housing configured to house the control processor and the memory; and at least one connector disposed on said housing for outputting the stored data[.]”

Claim 44 is a combination of claims 1, 32 and 33 with the exception of the memory being a “circular buffer memory” type. Thus, claim 44 is rejected w/r to claims 1, 32 and 33. Kirsten discloses a storage buffer being a solid-state memory (col. 33, line 34-37) in which recorded image data may be written and clear repeatedly based upon a pre-trigger, but not explicitly a circular buffer memory as claimed.

Ichimura makes it well known utilization of a circular memory (fig. 6, col. 9, line 48-54) for continuous data recording based upon an activation signal in which old data may be overwritten.

Therefore, taking the combined teaching of Kirsten and Ichimura as a whole, it would have been obvious to use a circular buffer memory in Kirsten as a replacement to the storage buffer for the benefit of continuous image recording in which a single circular buffer may be utilized since old data may be overwritten by new data as taught in Ichimura.

**Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsten in view of Ichimura, US 5,926,605 as applied to claim 44 above and further in view of Ross, US 5,880,775.**

Re claim 45, which recites "further comprising: a user activated capture switch, wherein the control processor is operative to store only a predetermined amount of data within the at least one circular buffer memory following user activation of the capture switch; a user activated purge switch, wherein the data stored in the memory is erased following user activation of the purge switch; a user activated still switch, wherein the control processor is operative to store a single data sample following user activation of the still switch; and at least one power source for powering the at least one first sensor type, the processor, and the at least one circular buffer memory; wherein the housing is a tamper resistant housing and is further configured to house the at least one first sensor type[.]"

Both claims 44 and 45 are a combination of claims 1, 4 and 32-34 with the addition of a "user activated still switch" and storing "a single data sample" based upon the activation of the still switch. Thus, claim 45 is rejected w/r to claims 1, 4, 32-34 and 44 above. Kirsten and Ichimura fails to teach a user activated still switch and storing a single data sample based upon the activation of the still switch as claimed.

Ross is in the same field of endeavor and makes well known the above limitations based upon a security infraction for the benefit of allowing security personnel to later view the video image at the point of infraction (col. 1, line 20-31).

Therefore, taking the combined teaching of Kirsten, Ichimura and Ross as a whole, it would have been obvious to include a freeze frame recording for the benefit of allowing a security personnel to later view the stored image at the point of security infraction.

**13-14**

**Claims 9, 11-12,<sup>13</sup>20, 32-33, 35, 41, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsten.**

Re claim 9, the device of claim 1, wherein said control processor is operative to store the data only in approximately one-half the memory following the event. With respect to the discussion in claims 1 and 5 above, Kirsten discloses recording image data at a lower image rate further away from the triggered event. The advantage of implementing the image recording scheme of Kirsten is the requirement of less storage space, in fact, at 25:1 volumetric advantage in one example (see col. 6, line 34-36). Kirsten does not specify storing the image data only in approximately one-half the memory following the event as claimed per se. However, one skilled in the art would

have found it obvious that the 25:1 volumetric advantage in memory saving when implementing the scheme in Kirsten would have encompassed the  $\frac{1}{2}$  memory requirement as claimed.

Re claim 11, the device of claim 1, further comprising: an image sensor, including a charge coupled device, operative to generate the data. With respect to the discussion of claim 1 above, Kirsten further discloses digital image sensor for providing digital images at various resolutions (see col. 30, line 1-37). However, Kirsten fails to explicitly disclose a charge coupled device i.e. CCD-type image sensor. Official Notice is taken to note that CCD-type sensor is notoriously well known and used at the time the claimed invention was conceived and would have been an obvious choice as the source of digital images disclosed in Kirsten. It is well known that CCD image sensors are miniature in size and are versatile and commonly used in video surveillance applications because of their capability of providing high resolution digital images.

Re claim 12, the device of claim 11, further comprising: a lens positioned so as to focus an image on said image sensor to cover a viewing angle. With respect to the discussion in claim 11 above, a prior art CCD image sensor would have necessitated a focus lens that directs light onto a computer chip that is sensitive to light. This is an inherent property.

Re claim 13, the device of claim 1, further comprising: an image sensor, including an artificial retina, operative to generate the data. With respect to the discussion in claim 12 above, the computer chip that is sensitive to light in a CCD image sensor is the artificial retina.

Re claim 14, the device of claim 13, further comprising: a lens positioned so as to focus an image on said artificial retina to cover a viewing angle. (Claim 14 has been analyzed and rejected w/r to claims 11-13 above).

Re claim 20, the method of claim 19, wherein said second rate is greater than said first rate. (With respect to the discussion of claims 5 and 7 above, Kirsten is capable of recording image data at different frame rates relative to a trigger event. As discussed, Kirsten discloses the second rate (i.e. the rate at which image data being recorded is further away from the trigger event) is less than the first rate (i.e. the rate at which image data being recorded is closer to the trigger event), but does not explicitly disclose the second rate being greater than the first rate. However, it would have been obvious to one skilled in the art that Kirsten would have been capable of having the second rate being greater than the first rate as a matter of design since Kirsten already possesses the capability of recording image data at different rates relative to a trigger event.

Re claims 32-33, claim 32 recites "a tamper resistant housing configured to house the control processor and the memory", and claim 33 recites "wherein said housing is portable". Kirsten fails to disclose that the surveillance system comprises a tamper resistant housing, and that said housing is portable. However, Examiner takes Official Notice that enclosing a video surveillance system in a tamper resistant housing and making it portable in a surveillance environment as claimed are nothing new, and is widely practiced in the art. Hence, these features as claimed are non-inventive features



and incorporating them is a simple matter of design choice to achieve a desirable effects.

Re claim 35, the device of claim 1, wherein the first resolution is exponentially higher than the second resolution. With respect to the discussion of claims 1 and 8 above, Kirsten discloses the first resolution being higher than the second resolution. Whether the first resolution is exponentially higher (or even marginally higher) than the second resolution is a simple matter of design and would have been obvious in Kirsten because he already possesses the capability of varying recorded image resolution through rate control (see "Rate Control Techniques", beginning at col. 16, line 5).

Re claim 41, the method of claim 15, further comprising the steps of: storing said data at the second resolution prior to the event; and storing said data at the first resolution subsequent to the event. With respect to the discussion of claims 1 and 15 above, Kirsten discloses as claimed recording image data at a first resolution prior to the trigger event and at a second resolution subsequent to the trigger event. Kirsten does not explicitly disclose the first and second resolutions in reverse order as now claimed. However, whether the first or second resolution is before or after the trigger event is a simple matter of design and would have been obvious in Kirsten since he already possesses the capability to vary recorded image resolution relative to a trigger event.

Re claim 43, the method of claim 15, wherein the first resolution is exponentially higher than the second resolution. (Claim 43 has been analyzed and rejected w/r to claim 35 above).

**Claims 18, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsten as applied to claim 16 above and further in view of Nishijima, US 5,915,069.**

Re claim 18, the method of claim 16, further comprising the step of encrypting said first data and said second data prior to storing said first data and said second data. Kirsten fails to teach encrypting image data as claimed. However, Nishijima is in the same field of endeavor and makes it well known encrypting image data for error detection and correction (see col. 4, lines 61-64).

Therefore, taking the combined teaching of Kirsten and Nishijima as a whole, it would have been obvious to modify Kirsten to include the step of encrypting image data as taught in Nishijima for the benefit of error detection and correction when the stored image data are transmitted through a network as disclosed in Kirsten (see col. 37, line 56-66).

Re claim 36, the device of claim 1, wherein the control processor is operative to encrypt the data prior to storage in the memory. (Claim 36 has been analyzed and rejected w/r to claim 18 above).

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

5,724,475	Kirsten	3-1998
5,926,605	Ichimura	7-1999
5,915,069	Nishijima	6-1999

5,880,775	Ross	3-1999
5,446,659	Yamawaki	8-1995

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the **TWO MONTH** time period set forth above. See 37 CFR 1.136(b) for extensions of time to

reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

Vu Le

**A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:**

Conferees:

Vu Le

Mehrdad Dastouri

Chris Kelley

MEHRDAD DASTOURI  
SUPERVISORY PATENT EXAMINER

